

# NebulaOne™ Case Study 4-2022

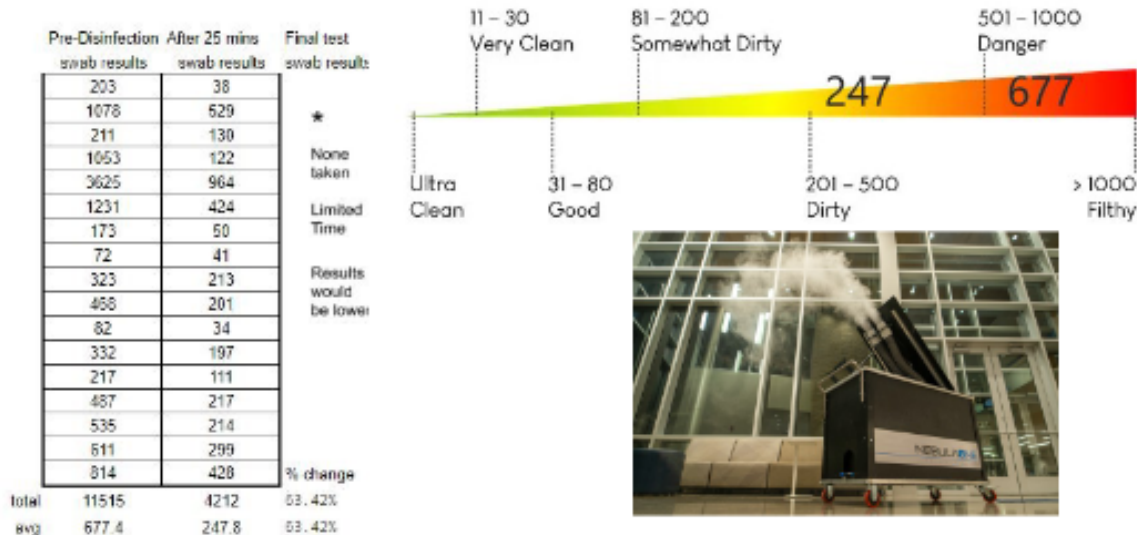
**The Problem:** The hospital's cleaning crew is doing a great job of cleaning. Cleaning removes any debris, dirt, or organic material seen by the eye. The infectious spreading of microscopic pathogens like Influenza, C.Diff, Staph, Hepatitis, Rotavirus, and RSV are a major concern within the hospital. Disinfecting requires deactivating these pathogens which can't be seen.

**Testing Protocol.** There is a procedure called an "ATP test" to reveal how "clean" a surface is. ATP stands for adenosine triphosphate, which is an energy molecule found in all living things. By testing for the presence of ATP on a surface, you are examining for the presence and/or growth of microorganisms, like bacteria, viruses, or mold.

**Disinfecting Protocol:** In two (2) short 10 minute intervals with a 15 minute rest between, using the NebulaOne™, sub-3 micron Hypochlorous (HOCL) will be introduced to the air zones in three (3) three sections of the hospital. Recording the pre/post ATP reading will allow testing of the airborne disinfection process. Test reading normally made before, in the middle, and after HOCL run\*.

**Limits:** The hospital will remain operational with all aspects of healthcare continuing as normal. Staff of the hospital must remain focused on patient care, therefore a limited time frame is put in place for four testing times over two days. Some testing spots will remain in use between swabs and values may be compromised. Staff and patients will be in all test areas. Nothing could become wet from dry-mist, no patient or staff complaints of odor, and smoke alarms shouldn't give false triggers.

**Synopsis:** Combined/Average ATP readings of all test areas before the disinfection run compared to the combined/average ATP reading of all test areas after the disinfection runs show a 63% drop in active pathogens in less than 25 minutes after two (2) 10 minute runs (677 before dropped to 247 after.) Hypochlorous remained active for hours, however, due to time restrictions no further testing was performed\*. In addition, no complaints about odor, nothing was wet, and no false smoke alarms.



**\*Each of these test runs were limited to 25 minutes, resulting in a 63% average drop in ATP. In past comparable testing, an additional test swabs would have been conducted at end of first hour, with expected results of 90-95% aggregate drop. HOCL continues to attack and kill harmful pathogens for hours after machine is turned off.**

